V. REMARKS

Claim 13 is objected to because of an informality. The claim is amended to obviate the objection. Withdrawal of the objection is respectfully requested.

Claims 1 and 6 are rejected under 35 U.S.C. 103(a) as unpatentable over Kakehashi et al. (U.S. Patent Application Publication No. 2002/01800572) in view of Shojiro et al. (JP 2222509) and further in view of Oshima et al. (U.S. Patent Application Publication No. 2002/0067232). The rejection is respectfully traversed.

The problem to be solved by the present invention is to eliminate a void (V) between the outer winding and the inner winding, which would cause a corona discharge leading to a dielectric breakdown between the outer winding and the inner winding.

As shown in the Illustrative Sketch attached hereto, the void (V) of a generally triangular cross-section is left between the adjacent turns of closely wound outer winding.

In order to solve the above problem, the claimed invention, as recited in claim 1, adopts the features that:

one turn of the outer winding in the intermediate winding portion is spaced along the axis of the ferrite core from the adjacent turns by a distance of 10 m or more, and

each of winding start ends and winding stop ends includes one to two close turns of the winding.

Thus, the molding material forming the dielectric shield can be easy to flow into the void (V) formed between the close turns of the outer winding at the winding start and stop ends by way of a wide spacing left between loose turns of the outer winding at the intermediate winding portion, thereby filling the void with the molding material, and avoiding the void left between the inner and outer windings.

As admitted by the Examiner, US 2002-0180572 fails to teach the provision of the intermediate wound portion, and is far away from the subject matter of the claimed Invention.

Further, neither of JP 2-222509 nor US 2002-0067232, which are indicated by the Examiner to be combined with the primary reference US2002-018057, remedies the deficiency of the primary reference, since JP 2-222506 does not disclose the close turns of the outer winding, and US 2002-0067232 does not disclose a structure in which the void of a triangular cross section is left between the close turns of the outer winding on the outer surface of the inner winding. Especially, US 2002-0067232 does not disclose the inner winding which shields the interior of the outer winding so that the coil has its interior surface open to be easily filled with the resin material.

Thus, it is respectfully submitted that none of the references addresses the solution or even suggestion of filling the void left between the close turns of the outer winding on the outer periphery of the inner winding by making the use of the spacing left between the loose turns of the outer winding at the intermediate wound portion. It is emphasized that none of the references suggest or imply the necessity of filling the voids in order to prevent the corona discharge that cause the dielectric deterioration between the inner winding and the outer winding held close on the inner winding.

Therefore, it is respectfully submitted that none of the applied art, alone or in combination, teaches or suggests the features of claim 1 as discussed above. Thus, it is respectfully submitted that one of ordinary skill in the art would not be motivated to combine the features of the applied art because such combination would not result in the claimed invention. As a result, it is respectfully submitted that claim 1 is allowable over the applied art.

Claim 6 depends from claim 1 and includes all of the features of claim 1. Thus, it is respectfully submitted that that claim 6 is allowable at least for the reason claim 1 is allowable as well as for the features it recites.

Withdrawal of the rejection is respectfully requested.

Claims 11, 22, 24 and 25 are rejected under 35 U.S.C. 103(a) as unpatentable over Kakehashi in view of Shojiro and Oshima as applied the claim 1 and further in view of Fan (U.S. Patent No. 6,680,664). The rejection is respectfully traversed.

As discussed above, claim 1 is allowable over Kakehashi in view of Shojiro and Oshima. Fan fails to cure the deficiencies of Kakehashi, Shojiro and Oshima and therefore claim 1 is allowable over the combination of al of these references.

Claims 11, 22, 24 and 25 depend from claim 1 and include all of the features of claim 1. Thus, it is respectfully submitted that the dependent claims are allowable at least for the reason claim 1 is allowable as well as for the features they recite.

Withdrawal of the rejection is respectfully requested.

Newly-added claims 34 and 35 also include features not shown in the applied art. For instance, in claim 34, the ferrite core is configured to have an ellipsoidal cross-section in order to exclude, circular section which may cause spring-back unwinding of the outer winding during the fabrication of the transformer and, in claim 35, the outer winding is offset towards one axial end of inner winding to occupy one-half axial length of the inner winding or less in order to give high dielectric isolation from the inner winding.

Further, Applicants assert that there are also reasons other than those set forth above why the pending claims are patentable. Applicants hereby reserve the right to submit those other reasons and to argue for the patentability of claims not explicitly addressed herein in future papers.

In view of the foregoing, reconsideration of the application and allowance of the pending claims are respectfully requested. Should the Examiner believe anything further is desirable in order to place the application in even better condition for allowance, the Examiner is invited to contact Applicants' representative at the telephone number listed below.

Should additional fees be necessary in connection with the filing of this paper or if a Petition for Extension of Time is required for timely acceptance of the same, the Commissioner is hereby authorized to charge Deposit Account No. 18-0013 for any such fees and Applicant(s) hereby petition for such extension of time.

Respectfully submitted,

Date: August 10, 2006

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Enclosure(s): Amendment Transmittal
Petition for Extension of Time (one month)
Illustrative Sketch

DC244329.DOC

ILLUSTRATIVE SKETCH